IN THE CLAIMS:

Claims 1-36 (canceled)

Claim 37 (new): An isolated nucleic acid delivered into a cell comprising a gene for a transcription factor that is operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene such that the rate of transcription increases in response to a stress and in response to the transcription factor.

Claim 38 (new): An isolated molecular circuit delivered into a cell, comprising (a) a gene encoding a transcription factor, the gene encoding the transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene such that the rate of transcription increases in response to a stress and in response to the transcription factor, and (b) a gene of interest, the gene of interest being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene of interest such that the rate of transcription increases in response to the transcription factor.

Claim 39 (new): The molecular circuit of claim 38, wherein the gene encoding a transcription factor is selected from the group consisting of a gene for a mutated heat shock transcription factor, a chimeric transcription factor, a constitutively active transcription factor and a transcription factor active in the presence of a second stimulus other than a stress.

Claim 40 (new): An isolated molecular circuit delivered into a cell, comprising (a) a gene encoding a first transcription factor, the gene encoding the

first transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene such that the rate of transcription increases in response to a stress and in response to the transcription factor, (b) a gene encoding a second transcription factor, the gene encoding the second transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene encoding the second transcription factor such that the rate of transcription increases in response to the first transcription factor, and (c) a gene of interest, the gene of interest being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene of interest such that the rate of transcription increases in response to the second transcription factor.

Claim 41 (new): The molecular circuit of claim 40, wherein the genes encoding a first or second transcription factor are selected from the group consisting of a gene for a mutated heat shock transcription factor, a chimeric transcription factor, a constitutively active transcription factor and a transcription factor active in the presence of a second stimulus other than a stress.

Claim 42 (new): An isolated nucleic acid or set of nucleic acids delivered into a cell comprising (a) a gene encoding a first transcription factor, the gene encoding the first transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene such that the rate of transcription increases in response to a stress, and (b) a gene encoding a second transcription factor, the gene encoding the second transcription factor being operably linked to a nucleotide

sequence with which it is not normally associated that directs the transcription of the gene encoding the second transcription factor such that the rate of transcription increases in response to the first transcription factor and in response to the second transcription factor, whereby first and second transcription factor may be identical molecules.

Claim 43 (new): An isolated molecular circuit delivered into a cell, comprising (a) a gene encoding a first transcription factor, the gene encoding the first transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene such that the rate of transcription increases in response to a stress, (b) a gene encoding a second transcription factor, the gene encoding the second transcription factor being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene encoding the second transcription factor such that the rate of transcription increases in response to the first transcription factor and in response to the second transcription factor, and (c) a gene of interest, the gene of interest being operably linked to a nucleotide sequence with which it is not normally associated that directs the transcription of the gene of interest such that the rate of transcription increases in response to the second transcription factor, whereby the first and second transcription factors may be identical molecules.

Claim 44 (new): The molecular circuit of claim 43, wherein the genes encoding a first or second transcription factor are selected from the group consisting of a gene for a mutated heat shock transcription factor, a chimeric transcription factor, a constitutively active transcription

factor and a transcription factor active in the presence of a second stimulus other than a stress.

Claim 45 (new): A recombinant eukaryotic host cell comprising a molecular circuit according to any of claims 38-41, 43 and 44.

Claim 46 (new): A recombinant virus or a set of recombinant viruses comprising a molecular circuit according to any of claim 38-41, 43 and 44.